such circumstances that Kernig's sign has been missed in several cases of meningitis. The diagnostic value of this sign is considerable as it has been met with in 85 to 90 per cent. of cases of meningitis. It is, however, present in other conditions with meningeal inflammation—for example, meningeal hemorrhage and cerebral abscess—but this seems to be exceptional. Its value is reduced, therefore, by the fact that it rarely appears at the beginning of the case or occurs alone. The diagnosis is consequently in many cases apparent independent of this sign. Roglet explains the phenomenon as follows: In a person in a sitting posture with the thighs flexed to some degree, and the trunk of the legs extended, the flexor muscles are on stretch, and their elasticity is soon exhausted. If under the influence of spinal irritation and irritation of the spinal roots, where this may be due to increase of intraspinal pressure or to the presence of purulent exudation, there is naturally produced some increase of muscular tonicity. This diminishes the elasticitv and length of the flexor fibers which then become too short to allow of extension of the leg on the thigh, and thus the sign is produced.

JELLIFFE.

PATHOLOGY.

UEBER ERKRANKUNG DES GEHIRNS NACH TRAUMA (Traumatic Diseases of the Brain). M. Koppen (Archiv für Psychiatrie und Nervenkrankheiten, xxxiii., 2, 1900).

The author reports in detail eight cases, with pathological findings, from his service in the Charité, and gives the following general conclusions:

Violence when inflicted upon the skull frequently produces small lesions of the base of the frontal lobes, at the apices of the parietal lobes and of the occipital. They may even be found when the skull is not injured. At the affected areas destruction of the tissues is shown by hemorrhagic infiltration and various stages of encephalitis. From these foci scars and other defects with a cicatricial investment later appear.

The presence of these scars may be taken as an indication of a previous trauma. Foci of softening are frequently localised in the cerebral cortex, but over small cicatrices, with numerous areas of hemorrhage, may be assumed to be of traumatic origin. The existence of such defects is shown by small contractions or depressions. When these scars and defects are found the incidence of a traumatism is almost certain.

The exuded blood may be entirely resorbed or for a long time may remain in the form of pigment deposits or of colored amorphous masses, or small bodies which preserve the outward form of blood corpuscles. The absence of signs of hemorrhage does not negative the occurrence of a trauma.

Certain symptoms stand in direct relation to the occurrence of the lesions of the base of the brain, *e.g.*, indications of the meningitis, as rigidity of the neck and forced positions of the body.

Severe cerebral symptoms, as coma with spasms, in which death ensues, may appear suddenly in traumatic cases, without the appearance of any other condition than the minute areas of destruction of the basal cortex. These compel the assumption that an irritation proceeds from these areas, sufficient to call forth general symptoms, probably in the form of circulatory disturbances. These severe cerebral manifestations may ensue long after the trauma.

The symptoms of sudden irritation of the brain and of a general mental degeneration, may also develop after injuries to the head, which have shown no immediate consequences and especially have not caused any severe disturbance of consciousness. Symptoms following immediately after the accident fail in cases in which a material change in the cerebral substance has taken place.

The brain may be injured by an accident, in which there has been no direct blow upon the head, but in which the impact has been upon the foot or the knee or the buttocks.

Dementia ensuing upon an injury to the head is not identical with dementia paralytica, and may best be described as dementia post-traumatica. There are stages in this disease, especially when the history is not known, when confusion with dementia paralytica is highly probable.

Universal changes in the vessels, which have been described by Kronthal, and Friedman, as having taken place in traumatic cases, were observed by the author in one case, but were wanting in others, in which, owing to the long time following the occurrence of the injury they might reasonably have been expected. The question arises as to whether such vascular changes are a necessary accompaniment of concussion of the brain, or merely an incident. It is further to be remembered that such universal changes may occur in arteriosclerosis.

In case of extreme dementia following trauma there is often no other lesion than the cicatrices in the cerebral cortex, so that the development of a general irritation affecting the entire nutrition and blood supply of the brain must be assumed. JELLIFFE.

HISTOLOGISCHE VERÄNDERUNCEN DES CENTRALNERVENSYSTEMS UND DES MAGENS BEI TETANIE DES MAGENS (Histological Changes of the Central Nervous System and of the Stomach in Tetany of the Stomach). L. Ferrannini (Centralblatt für Innere Medicin, No. 1, 1901, p. 1, Jan. 5).

In 1869 Kussmaul for the first time called attention to a form of tetany which occurred in individuals with gastrectasia. Since then about fifteen cases have been published. Tetany does not occur in all dilated stomachs, but only in those cases in which a constant hypersecretion exists. The following case is the subject of this study. Woman, 23 years old, gastric symptoms for eleven years. The stomach was found to be enlarged, the total acidity 2.8%. free hydrochloric 2.35%. The convulsive symptoms of tetany were present in a marked degree. Autopsy: Stomach enormously dilated, chronic catarrh. Venous hyperemia of the pia and of the brain and the cord. Ganglion cells of the nuclei of the medulla and the dorsal portion of the cervical cord showed pathological alteration. Dilatation of the perivascular lymph spaces, together with swollen appearance of the nerve cells, chromatolysis. The nuclei of the nerve cells were mostly enlarged and peripherally situated, irregular in form and staining qualities. The nuclear membrane was thickened and intensely stained. The cell branches were rather thin, sometimes tortuous and showing in places nodular thickening. Nothing abnormal was discovered in the nerve fibers. These definite and severe lesions of the nerve cells speak against a reflectory origin of tetany. The assumption of an intoxication best explains the symptoms and the pathological appearances. The author believes that there is an increased production of toxic products rather than a diminished excretion of the same. SCHWAB.